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NATIONAL PLANNING IN VIETNAM

Vu Quoc Thuc

IN AN IMPORTANT STATEMENT in August 1955, President Ngo Dinh Diem officially announced his decision to resort to national planning for the purpose of speeding up economic development and social reform. Six years have elapsed since then. Those of us who are concerned with Asian problems--and particularly with the oft-questioned efficacy of United States aid on the Asian front in the cold war--cannot help but wonder how much has been achieved in terms of the Vietnamese national plan.

Even the most skeptical and unfriendly must commend President Diem for his outstanding performance in converting troubled, rotten, truncated South Vietnam into a viable state. However, from the economist's standpoint, the crucial questions are these: Have these improvements been achieved within the framework of a national plan? If so, to what extent has the Vietnamese plan been implemented? What percentage of the goals have been reached, and has this performance been on schedule?

Before seeking answers to these questions, it may be helpful to note the usual definition of economic planning--"a series of measures adopted to implement a project involving economic activity." Every plan has three basic characteristics. The first of these is a deadline for completion of the work. Within this time limit all of the goals must be attained. A flexible program, in which no deadline is set, does not deserve to be called a plan.

The second characteristic is a clear definition of the goals in terms of ascertainable data--for example, annual production of $\underline{x}$ tons of rice, $\underline{y}$ tons of rubber, and $\underline{z}$ tons of coal, to be attained at the end of the planning period; or a certain percentage increase in the gross national product or in the national income per capita.

Finally, the means chosen to implement the various projects must be anticipated clearly and comprehensively, because the justification for planning lies precisely in the scarcity of existing means with which to meet national requirements. The rationale of planning is an appropriate distribution of the limited means, both present and anticipated, among the various projects, in accord with a considered order of priorities. Otherwise, an excess of means, or over-investment, in any one specific project will create a shortage in another. Disequilibrium in any sector may affect the over-all situation, with relative over-production obtaining in certain areas and partial under-production in others.

HAS ANY PLAN for economic development and social improvement, including all of these three characteristics, been put into effect in Vietnam since 1955? Much has been said and written about the Five Year Plan established in 1957. According to competent authorities, this Plan should have provided a framework for economic and social action by the Vietnamese government during the past four years, and it should remain operative until the end of this year. As everyone knows, however, the 1957 Plan has never been officially published. On the contrary, it is treated as a classified document for restricted use within the government agencies. Consequently, its effects are not felt outside these agencies. As a matter of fact, private farmers, industrialists, businessmen--none of these have been able to shape their own operations in accordance with the expectations of the 1957 Plan. And although such "key sectors" as foreign exchange, banking, rail transportation, coal mines, electric power, etc., are controlled in principle by the government, people have continued in fact to enjoy the fundamental freedoms of private enterprise. Moreover, even within the government many officials have allegedly not hesitated to ignore the Plan.

Thus, after four years of "unofficial planning," we have the following situation:

1. Numerous economic and social projects have been carried out with satisfactory results although they were not provided for in the Plan. By way of illustration, one may mention the many land-development projects and the creation of more than 20 so-called agrovilles. According to a statement by Mr. Ngo Trong Hieu, Secretary of State for Civic Action, in a recent press conference, 147 agricultural development centers have been established, involving more than 200,000 peasants.[1] Judged by the 1957 Plan's standards, this policy would appear to have involved an over-investment.[2]

2. On the other hand, other projects--notably several big industrial enterprises--have been postponed or only partly achieved because of a deficiency of capital and of technicians. Neither the paper mills at Bien-Hoa nor the cement factory at Hatien, for instance, will be in production before the end of next year. A sudden change in government policy appears to be responsible: for some undivulged reason, industrialization has become less important than land development and the creation of agrovilles!

3. After four years of activity, the Vietnamese Directorate of Planning is still unable to play the role called for by its name. Organized as a special bureau under the direct supervision of the Secretary of State for the Presidency, it is empowered, in principle, to coordinate all government departments in matters involving the Five Year Plan. In fact, it can exert pressure on neither government officials nor private businessmen. In matters relating to public investment, for example, the coordinating function is fulfilled instead by the High Council of Money and Credit, many members of which have cabinet rank and may easily by-pass the

Director of Planning. As for private investments, these are controlled by another public agency, the Industrial Development Center, but only to the extent that the Center's participation is solicited.

Such practices have made of the Directorate a research bureau pure and simple, with a very small staff and lacking even some of the basic statistical data necessary for understanding the economic situation. The most recent figures on national income, for instance, are for 1956! It is, therefore, not surprising that in its present efforts to establish a new five-year plan the Directorate of Planning should now be facing the same kind of difficulties that it did in 1957.

In short, it must be frankly admitted that Vietnam has never had a real "plan" in the accepted meaning of the term.

IN EXPLANATION OF this most regrettable situation, it seems fair to take into account two main factors: the shortage of capital, and the incompatibility between United States aid procedures and medium-range development planning.

With regard to the shortage of capital, the achievement of any economic development project whatever--expansion of a rubber plantation, establishment of a hydroelectric plant, modernization of an airport, etc.--requires new investment. Now, in an advanced country, the main source of capital is of course private savings: by issuing bonds and shares or by borrowing from various savings institutions, entrepreneurs may expect to meet their financial needs, and the sole criterion is apt to be the anticipated marginal efficiency of the investment. Given an abundance of capital and dynamism on the part of businessmen, the role of planning authorities is limited to encouraging, guiding and coordinating private initiative.

In an underdeveloped country like Vietnam, conditions are quite different. Private capital is lacking for any important project. The limited funds available are traditionally attracted to such unconstructive activities as usury, speculative trading in commodities, construction of houses for lease at high rentals, and so forth. The yearly profit on these operations may be as high as 50 per cent, or far more than an investor may hope to earn from an industrial project.

To the best of the writer's knowledge, the 1957 Five Year Plan assumed a total investment of 12 billion Vietnamese piastres (US$343 million). Thus, to carry out the big projects envisaged by this Plan, there remained only one possibility: public investment. But how can the government afford to invest 12 billion piastres, when its total receipts (less foreign aid) amount to less than 60 per cent of its expenditures?

Some commentators, inspired by Keynesian economics, contend that the government should resort to deficit financing--borrowing, for instance, from the National Bank. There could be no danger of inflation, their argument runs, if the money were used to finance short-term projects such as the creation of industries and the resettlement of peasants in new agricultural development centers. Unquestionably there is much to be said for a limited, closely controlled "pre-financing" policy. On the other hand, in underdeveloped countries like South Vietnam people are very sensitive to fluctuations in the money market, and the slightest symptom of weakness could endanger the whole money and credit system.

Considered from this angle, the problem of deficit financing is closely related to the problem of foreign exchange and therefore to the problem of United States aid.

We come now to the question: is Vietnam really running short of foreign exchange? If the situation is judged on the basis of financial statistics alone, the answer would appear to be in the negative. The balance sheet of the National Bank of Vietnam shows important foreign-exchange holdings estimated at US$200 million. During the single year 1960, foreign-exchange revenues increased by US$40 million. These facts would seem to justify the criticism of certain observers of the National Bank's "hoarding policy." It has even been argued that the Vietnamese cannot "absorb" all of the commercial aid given them by the United States. In 1960 such aid was estimated at US$140 million.[3] Earnings from exports totaled about US$90 million. Apparently, therefore, the "importing capacity" of Vietnam in 1960 amounted to some US$190 million (140 + 90 - 40).

On the basis of these figures, it would appear that Vietnam was able to import as much in the way of capital goods as the 1957 Plan required. This was apparently possible because only 60 per cent of the total investment anticipated by the Plan was to consist of imported goods and services (60 per cent of US$343 million, or US$200 million). In the writer's opinion, however, these splendid figures do not reflect the real situation in Vietnam. The brutal truth is that we cannot keep on drawing foreign exchange from the National Bank's reserves.

In order not to shake popular confidence in the Vietnamese piastre, the National Bank must prevent its foreign-exchange reserves from falling below a minimum level. In terms of Ordinance No. 48 of December 31, 1954, gold and foreign-exchange reserves must not be less than 33 per cent of the total short-term liabilities of the National Bank. Thus, the present figure of US$200 million is less than existing regulations require.

With regard to United States aid policy, a basic weakness must be noted. Prevailing practice permits the United States government to grant aid only on a year-to-year basis but not to provide assur-

ance for implementation of a five-year plan. Moreover, it is well known that during the 1955-60 period, many American authorities, both in the United States and in Vietnam, were skeptical of, if not systematically hostile to, any measure of state control or interference in the field of economic activity. How, then, can the Vietnamese government expect to integrate American aid into its Five Year Plan? One must not forget, moreover, that even the use of counterpart funds, i.e., the piastres deriving from the commercial aid program, is subjected to close control by the United States Operations Mission. Every project, even if it has been adopted by the Plan, must still undergo careful reappraisal by experts attached to the Mission. It is not surprising, in the circumstances, that some projects have been unduly postponed or simply abandoned.

Some persons have asked: Why did not the Vietnamese government borrow money from international organizations such as the International Bank for Reconstruction and Development? The answer is, that under present conditions, the International Bank will grant loans only if it considers the borrowing country to be solvent. Solvency in this context implies two conditions: (1) the balance of payments of the borrowing country must improve from year to year, as a result of increasing productivity, so as to ensure repayment of the loan on pre-arranged terms, and (2) the loan must be used to finance a sound project, i.e., one qualifying as "dollar saving" or "dollar earning."

Unfortunately, Vietnam can meet neither of these conditions. As long as guerrilla warfare continues in the countryside, the whole economy will remain endangered. Agricultural production cannot increase rapidly enough to assure a strong and consistent flow of exports. (In fact, exports amount to no more than 40 per cent of imports nowadays.) As for the soundness of projects, what is needed most in underdeveloped countries is the "infrastructure"--for example, railways, dams, canals, seaports, airports, etc., whose productivity cannot easily be evaluated and which, as "hard" projects, are rarely eligible for IBRD loans.

The possibility of attracting foreign private capital also has been discussed in recent years. Today investment opportunities abound the world over. Even in advanced countries such as West Germany, the United Kingdom, France, and so forth, technical progress has created new activities and opened new markets for existing industries. The need for expansion and modernization requires investment on such a scale as to raise the question whether these countries can continue to play their traditional role of suppliers of capital. In any case, the underdeveloped countries do not promise the same degree of security for the investor. An "outpost of the free world" such as Vietnam, where the subversive activities of international communism may be intensified at any moment, must not expect to attract foreign investments easily. Therefore, for many years to come, Vietnam will have to rely on

friendly foreign governments. To put the case more bluntly, the essential source of capital must remain American aid in the form of grants or loans on easy terms.

We come now to a crucial question: Is it because the United States government has not been in a position to grant aid on a medium-term basis that the Vietnamese government has declined to publish the details of the 1957 Five Year Plan?

There have evidently been no negotiations for joint action in the field of medium-range economic development because both the United States and the Vietnamese governments are sensitive regarding the principles of full Vietnamese sovereignty--and any joint planning might be regarded as running counter to this principle. At least in theory, however, it would seem that American aid could be integrated into a Vietnamese plan if the aid procedures were not too rigid and certain United States officials were not too prejudiced against state control of economic activity.

It is not difficult to understand the cautious attitude of the Vietnamese government in deciding to regard the 1957 Plan as only a semi-official program of action. This flexibility was necessary, because no one could guarantee the execution of the Plan on prefixed terms. And yet . . . it is somewhat regrettable, for in the meanwhile North Vietnam has been receiving unlimited assistance from communist countries in executing its own five-year plan!

IF THE FOREGOING REMARKS have pointed to the shortcomings of the 1957 Five Year Plan, the object has been not to put the blame on our American friends, but simply to stress the importance of measures approved by the Kennedy Administration in regard to Vietnam.

During his official visit to Saigon last May, Vice President Johnson stated in a joint communiqué that the United States would help Vietnam to fight communist subversion and to achieve a plan for medium-range economic development. Soon afterward a special financial group was sent from the United States to Saigon, where it remained for several weeks in order to work out, together with Vietnamese experts, a joint United States-Vietnamese special-action program.

This enterprise is not yet joint economic planning, because the main objective has been the restoration of internal security in the villages. But the idea is now formally accepted on both sides that United States aid must help Vietnam to build a self-sustaining economy. The amount of aid should, therefore, not be based on the budgetary needs of Vietnam but rather linked to its balance-of-payments prospects. The commercial aid program should not be designed with a view to providing the Counterpart Funds with as many Vietnamese piastres as possible, but instead must

help Vietnam to achieve its short- and medium-range economic development programs.

There is still a long way to travel toward realistic United States aid. The recent votes in the United States Congress during discussions of the foreign aid bill have been rather disillusioning in this regard. Nevertheless, one can only hope--and one must hope--that with more understanding on the part of American officials, aid procedures will become sufficiently flexible to help Vietnam execute its next Five Year Plan.

NOTES

1. See Wesley R. Fishel, "Political Realities in Vietnam," Asian Survey, April 1961.

2. According to the Directorate of Planning, a total of 1,340 million Vietnamese piastres, instead of the 396 million piastres anticipated in the Plan, have been spent on this project.

3. Discrepancies generally exist between figures published by United States sources and those reported by Vietnamese sources, because the latter customarily refer to the calendar, not to the fiscal, year, and also include carry-overs from previous years.

VU QUOC THUC, professor of economics and dean of the Faculty of Law in the University of Saigon, was Secretary for National Education in 1954, and Governor of the National Bank of Vietnam in 1955-56, and has been an adviser to the President of the Republic since 1956. In June of this year he headed a group of Vietnamese experts who formulated a joint Vietnamese-United States special-action program in conjunction with American economists.

REARMAMENT AND JAPAN: THOUGHTS ON A FAMILIAR BOGEY

Atsushi Oi

ON MAY 8, 1961, in his first press conference as United States Ambassador to Japan, Dr. Edwin O. Reischauer took part in the following exchange:

> Question: Last year you mentioned there were some misunderstandings between the United States and Japan. Would you be willing to point out specifically here . . . the points that the Japanese misunderstand about the United States and vice versa?
>
> Answer: . . . just to think of an example, I should say that a large percentage of the Japanese public quite misunderstands the basic objectives of the United States in the world. As we see it from our own side, all we're striving for is to create a peaceful world. We see grave dangers presented by groups that are extremely belligerent and extremely well armed, and so reluctantly we are forced into taking a military posture. . . . Now I'm sure that many Japanese don't think this about the United States. . . . It's very hard for Americans to understand why the Japanese have this tremendously strong reaction against any possibility of rearmament . . . or the possibility of being involved even in any way in a warlike situation. Remembering Japan's past warlike history, it is very hard for Americans to understand why Japanese today are so tremendously pacifistic. . . .

In thus referring to rearmament, the Ambassador touched on a major obstacle to Japanese-American cooperation in military matters that is generally misunderstood abroad. The following observations may help to clarify certain aspects of the situation.

ALTHOUGH JAPAN BEGAN to rearm in 1950 at the outset of the Korean War, even today the country has not gone far in the direction of full rearmament. The official reason for the difficulty lies in Article 9 of the Japanese Constitution:

> Aspiring sincerely to international peace and order, the Japanese people forever renounce war as a sovereign right of the nation and the threat or use of force as a means of settling international disputes.
>
> In order to accomplish the aim of the preceding paragraph, land, sea, and air forces, as well as any other war-making potential, will never be maintained. The right of belligerency of the state will not be recognized.

One explanation of existing Japanese anti-rearmament sentiment is based on this constitutional provision. However, this explanation by itself is misleading, for today the rearmament issue is closely related to Japan's military alliance with the United States. Although the constitutionality of such an alliance was officially upheld by the Supreme Court in its decision of December 16, 1959, opposition to it persists. Moreover, an overwhelming majority of those who oppose rearmament by Japan are equally hostile to any rewriting of the Constitution lest such revision lead to full-fledged rearmament.

In an article in the July 1961 issue of the well-known magazine Shiso (Thought), Professor Naoki Kobayashi of Tokyo University examines public-opinion surveys conducted in the years 1950-56, in order to identify the factors responsible for anti-rearmament attitudes. He cites the following factors: (1) fear of war, (2) economic hardship, (3) fear of militarism, (4) the constitutional prohibition, and (5) the futility of armaments. In every such survey, fear of war has been the prime reason given for opposing rearmament; the other four have ranked more or less equally.

Public polls that have been conducted frequently by the government and large newspapers indicate that from 1950 to 1956 there was more support for than opposition to rearmament, and that in 1957 these sentiments were reversed. By and large, more men than women favor rearmament, more older than younger persons, and more businessmen and self-employed individuals than intellectuals and company employees.

Examination of the results of these public surveys suggests, to the present writer at any rate, that prevailing attitudes toward rearmament originate chiefly in sentimentalism rather than in rationalism. In late years, both the domestic and the international situations have created an increasingly unfavorable climate for opposition to rational rearmament. The likelihood that Japan's national security might be safeguarded by the United Nations did not outlast the infancy of the new organization. Moreover, although the opponents of rearmament doggedly hoped that other nations would adopt non-militaristic constitutions similar to Japan's, their expectations were not fulfilled. On the contrary, overwhelming rearmament activities prevailed generally.

Economic incapacity was cited in the polls as a rational reason for opposing rearmament. Since, however, peace-time armaments can be maintained without endangering the national economy, it is unreasonable to oppose rearmament on these grounds. Moreover, Japan's economy has been improving ever since the Korean War, and the country is in a much more favorable economic position than many other nations that have armaments.

To oppose rearmament because of the constitutional prohibition is also unsound, for if the Constitution does in fact prohibit arm-

aments, it can be revised. Since those who oppose rearmament are also in the anti-revisionist camp, their real motives are suspect. At any rate, the once-dominant view that the Constitution forbids rearming even for self-defense has been losing supporters rapidly. By 1954 the armed forces that had been established four years earlier, ostensibly for police purposes, had been formally reorganized: their primary duty was then acknowledged to be defense of the country from exterior aggression. In December 1954, the government informed the Diet of its belief that the Constitution did not bar the maintenance of armed forces for national defense. This stand has been criticized, but mainly by opponents of constitutional revision.

In this connection, two additional facts should be noted. First, a school of constitutional interpretation, comprising ardent advocates of rearmament for the most part, maintains that since the present Constitution was formulated during the Occupation, it cannot be truly authoritative. Second, the Self-Defense Forces (the official name for Japan's present-day armed forces) have been attracting increasing popular support despite the continuing efforts of their detractors to discredit them.

Fear of militarism affords natural grounds for anti-rearmament sentiments, especially in view of Japan's history. To counteract this fear, the Japanese government has introduced a strict system of civil control, far more severe than that obtaining in the United States. The Office of the Director General of the Defense Agency is much more powerful than the office of the Secretary of Defense in the American military establishment and, moreover, is staffed entirely with civil service officials. Officers equivalent to the commandant of the National War College and to the superintendents of the military, naval, and air force academies also are appointed from the civil service. The present chairman of the Joint Chiefs of Staff had no military service in the old Imperial Army or Navy. The government has also avoided, with one exception, having uniformed officers offer expert testimony in the Diet.

No objective person can point to definite evidence of militarism deriving from the present Japanese military establishment. The evil of militarism arises from excessive emphasis on military matters; it is the over-emphasis rather than militarism itself that is injurious. In Japan today the danger lies less in rearmament than in a rejection of anything possessing a military cast.

The more evil aspects of militarism--belligerency and the abuse of force--have in recent years been demonstrated by such groups as the National Federation of Students' Self-Government Associations (Zengakuren) and the General Council of Trade Unions (Sohyo), which occupy the vanguard of the anti-rearmament movement and are threatening Japan with a tendency toward excess. In addition to the danger implicit in this attitude, there is a disquieting omen in the fact that rearmament is opposed mainly by those who

are more sympathetic with the totalitarian East than with the democratic West and who fail to realize that under a totalitarian system of government a police force tends to emphasize the evils of militarism, while under a democratic system militarism finds scant nourishment.

Although fear of militarism is repeatedly cited as a reason for opposition, opponents of rearmament generally disregard the foregoing considerations. If, as is alleged, this fear originated in Japan's past, and if, with the passage of time, people tend, as they do, to forget what once seemed of urgent importance, why should the public opinion surveys referred to earlier have indicated that pro-armament sentiments gave way to anti-rearmament ones around 1956? (It is noteworthy that in West Germany, where fears of militarism are also very strong and civil control is no firmer than in Japan, the opposite has been true.)

ANOTHER REASON for opposing rearmament is based on the argument that in this nuclear age it is futile for Japan to rearm with conventional weapons. Since the advocates of this reasoning also cry down proposals for arming the country with thermonuclear weapons--as well as the alliance with the United States--the weakness of their position is obvious. They have lost the will to resist, so that in their view defense measures are useless.

A similar attitude characterizes those who oppose rearmament through fear of war. In this nuclear age everyone fears war and wishes to avoid it, but there are two different views on how to do so: one way is to prevent war from occurring; the other is to escape its consequences. In order to forestall its occurrence, preventive measures are necessary, and of these rearmament is generally deemed the most reliable. But those Japanese who oppose rearmament from fear of war argue that rearmament will invite it, a thesis that echoes the Moscow line and gives rise to suspicion that they have lost their independence of thought and have become victims of communist propaganda.

In 1959 an important case was argued before the Supreme Court concerning the constitutionality of United States military bases in Japanese territory. Since the lower court had held that such bases were unconstitutional, the case attracted much public attention. Although the horrors that a future thermonuclear war would unleash were irrelevant in a legal sense, the left-wing lawyers who attacked the constitutionality of the bases placed greatest emphasis on this aspect of the matter, in an effort to show that Soviet military power was overwhelmingly superior to American, and that it would be both dangerous and futile for Japan to be militarily allied with the United States or to rearm against the Soviet Union. Understandably the Japanese people are particularly sensitive to this propaganda, which evokes the specter of thermonuclear war, whose horrors they have already experienced.

Most Japanese support the anti-nuclear-warfare campaign for humanitarian reasons. Since such sentiments are fostered by an awareness of the horrors of thermonuclear warfare, anti-rearmament propagandists naturally stress these aspects of the problem. They have done this especially since 1954, when, armed with H-bombs, the Soviet Union introduced the element of nuclear-warfare blackmail into her diplomacy and propaganda.

The Soviet Union has repeatedly warned Japan that the United States has become highly militaristic, hoping thus to persuade the Japanese that the United States may start a war in which they will be involved. This propaganda line cannot have much effect as long as the Japanese feel confidence in American power. Clearly, confronted with the nearby deployment of powerful communist forces, and mindful of communist aggression both past and present, Japan needs to protect itself from communism. It is natural for the ordinary Japanese, aside from the Marxists and those steeped in anti-American sentiments, to have faith in American power, for they reason that a sufficiently powerful United States can prevent war and that, if war should break out, American might together with Japanese self-defense forces would be able to protect Japan. However, once confidence in American protection is lost through lack of a firm guarantee of its effectiveness, an alliance with the United States will be more dangerous, in Japanese eyes, than no such protection at all. That is to say, the military alliance with the United States and Japan's own rearming can be meaningful to Japan only as long as American military might is demonstrably paramount--an attitude that has not been lost on the communists.

Pacifism and neutralism in Japan may have been founded initially on rational grounds, but in late years, as the domestic and international situations have changed, so have the bases for Japanese pacifism and neutralism shifted--from rationalism to emotionalism. The wellsprings of this emotionalism have changed as well, from ones originating mainly in domestic problems to those inseparably linked with the cold war, and particularly those instigated by communist terror propaganda, which has been notably successful in instilling a defeatist attitude in Japanese minds. In the process many Japanese have become subservient to communist suggestions and now react with hostility to anything that opposes communism. Of course, no Japanese would admit that his pacifism or neutralism sprang from defeatism. He rationalizes his attitude by one means or another, and the more intellectual his bias, the more quickly he is able to do so.

Pacifism and neutralism of this sort--far more dangerous than a genuinely rational dislike of armament and military alliances--can be kept within bounds only by imbuing the Japanese people with confidence. And since the public cannot be expected to display a ready grasp of international problems, and particularly those involving military considerations, the role of the leaders is extremely important. Unfortunately, most Japanese leaders have adopted a

time-serving attitude in this context. When the voices of pacifism and neutralism have spoken more loudly than those favoring rearmament and the American alliance, as has usually been the case, the leaders have harkened to those louder voices. An important reason for their behavior has been their own lack of confidence in the strength of the free world, and particularly in the ability of the United States to match communist capabilities.

It is not enough, therefore, that Americans should correct the misunderstanding of Japanese regarding the "basic objectives of the United States in the world." It is equally essential that Japanese should have confidence in the strength and judgment of the United States.

ATSUSHI OI, a former captain in the Imperial Japanese Navy, is Chief of Research for the Sea-Air Technical Research Association in Tokyo.

GOVERNMENT ENTERPRISES IN THE INDIAN ECONOMY

M. V. Pylee

THE KEY ROLE of the public sector in promoting the growth of the Indian economy through rapid industrialisation was enunciated as a major government policy as early as 1948.[1] Since then this policy has been repeatedly emphasised by authoritative pronouncements on behalf of the central government. The Industrial Policy Resolution of 1956 was one of the more recent. Among other things it declared: "The adoption of the socialist pattern of society as a national objective, as well as the need for planned and rapid development, required that all industries of basic and strategic importance, or in the nature of public utility services, should be in the public sector. Other industries which are essential and require investment on a scale which only the State, in the present circumstances, could provide, have also to be in the public sector."

The governments in India--both at the centre and in the states --have been implementing this policy with determination and vigour during the last decade of planned development. As a result, there are at present more than one hundred major state enterprises which have become vital to India's economy. They vary in size, in form, in the nature of their activities and in their relative roles in the development of the economy. Giant multi-purpose projects, such as the Damodar Valley Corporation (the Indian counterpart of the Tennessee Valley Authority), the Bhakra-Nangal Project, the Hirakud Project, etc., are designed mainly for flood control, irrigation and power generation. In the field of basic industries there are large companies, such as Hindustan Steel, the Heavy Engineering Corporation, Heavy Electricals, the Fertiliser Corporation, the National Coal Development Corporation, and Hindustan Insecticides, each of which controls a number of separate undertakings in steel, machine building, fertilisers, coal mining, and chemicals. Some of these have capital investments of more than one billion rupees.

The Indian Railways, the most important form of transportation in the country, with a network of over 30,000 miles, functioned as a state enterprise even during the period of British rule. Air transport was nationalised some eight years ago and is operating through two state concerns, Indian Air Lines and Air India International. Much road transport, too, has recently come under state ownership. Post, telegraph, telephone and radio have always been state monopolies.

The steady growth of state activity in the economic sphere has embraced other vitally important fields as well. Major examples are banking (Reserve Bank of India and State Bank of India), insur-

ance (Life Insurance Corporation of India), financing (Industrial Finance Corporation), mining and fuel (Oil and Natural Gas Commission), construction (National Construction Corporation), housing (Hindustan Housing Factory), defence production (Hindustan Aircraft, Bharat Electronics, and Prototype Machine Tool Factory), shipping (Hindustan Shipyard), atomic energy (Indian Rare Earths), and trading (State Trading Corporation of India).

With the existing accent on rapid industrialisation, many more state concerns are due to be established under the Third Five Year Plan, which has just been inaugurated. Indeed, an increasing number of new enterprises will be formed during each subsequent plan period. Their impact on the development of the economy will be decisive, and the administrative and other problems that they will create will call for special consideration. During the past decade the main emphasis has been on finding resources for these new projects and initiating them. The next decades, however, will call for close attention to problems of management, the solution of which can alone justify the continued existence of these concerns in their present form.

It may be noted at the outset of this article, which attempts briefly to examine certain of these problems, that in establishing and operating its enterprises the government has adopted a pragmatic rather than a dogmatic course. While this approach is advantageous because it permits flexibility and even basic reorientation of existing policies, there is insufficient experience thus far in the management of these concerns to warrant firm conclusions regarding the need for changes.

Location

What criteria should determine the location of a particular state enterprise? Undoubtedly some of the major considerations are availability and cheapness of raw materials, proximity to sources of power, nearness to market, cheapness of labour, climatic conditions, balanced regional development, facilities of transport and communication, and strategic factors. While some of these considerations are more important than others and perhaps even decisive, decisions have not always been taken on such an objective basis.

There can be little criticism of the location of major steel plants at Bhilai, Rourkela, Durgapur and Bokharo, since they are in the heart of an area rich in iron ore and coal. No such justification, however, can be made for Heavy Electricals at Bhopal, Hindustan Cables at Rupnarayanpur, Chittaranjan Locomotives at Chittaranjan, or the Baroni Oil Refinery in Bihar. A heavy electrical concern which has to import 90 per cent of its raw materials has little justification for being located in the heart of the subcontinent instead of in a coastal area, except of course when political considerations are decisive.

Assam was not chosen at first for the location of an oil refinery even after the Naharkotiya oil wells in Assam had been discovered and the government was planning to establish two refineries. This was true even though Assam is one of the most backward states in the nation. The government, however, reluctantly agreed later to establish the Nunmati Refinery in Assam when the people of the state started an agitation and even threatened to stop the flow of oil from the state.

No detailed study is required to discover that many decisions governing the location of state enterprises during the last decade have been the product mainly of political considerations. States with a stable and stalwart political leadership got what they asked for; others got much less, or nothing at all. The most glaring example is the state of Kerala, with its teeming millions and chronic political instability, which got almost nothing out of the total allotment of 7,700 million rupees for industries during the Second Five Year Plan.

One of the prerequisites for true national political and emotional integration is economic integration through a planned programme of development. The Planning Commission and the Five Year Plans aim to achieve such an objective. Yet balanced regional growth is a principle that is still to be translated into practice as far as the location of state enterprises is concerned. It is high time that the importance of a major state enterprise to the development of the region in which it is located should receive due recognition by those who are concerned with planned development.

Organisation and Autonomy

There are three main forms in general use for organising state enterprises. These are departmental management, the statutory corporation, and the joint stock company. Chittaranjan Locomotive Works and the Integral Coach Factory (Madras) are examples of the first category; the Damodar Valley Corporation, the Life Insurance Corporation and the air lines corporations belong to the second category; Hindustan Steel, the Heavy Engineering Corporation, and the State Trading Corporation fall in the category of companies established under the Indian Companies Act. Most concerns belong to this last category. As more and more of them are established in the same fields of operation, or different concerns develop special commercial or technical relations with one another, an attempt is made to bring them together under a single management, or special measures are taken to ensure better coordination.

A fourth form, the control board, also has been used for certain types of activities--for example, in giant multi-purpose projects, such as the Bhakra-Nangal and the Hirakud, where the central government and one or more states jointly undertook a flood-control, irrigation and power-generation scheme. But the control board does

not seem to be a permanent form. It is intended to be transitional and to facilitate the joint participation of different governments at the time of construction. Thereafter, the concern may assume one of the other three forms.

Although it is difficult to find special reasons for the choice of a particular form in organising a certain type of government enterprise, one may broadly say that enterprises of a commercial nature are organised as companies. One special advantage claimed on behalf of such companies is that they have more autonomy and are more flexible than statutory corporations. Whenever a structural change is sought, a statutory corporation must go before Parliament or the state legislature, as the case may be, to effect such changes. This process takes much parliamentary time. So long as the number of such concerns is small, Parliament may be able to deal with them effectively, but with increasing numbers this will become impossible. The company form does not suffer from any such disadvantage. In contrast, departmentally managed concerns are alleged to have little freedom of action, for they have to follow normal government procedures, which are dilatory and not conducive to quick decisions or the transaction of business as in a private commercial concern.

The question of the autonomy of a state enterprise from a practical point of view, however, does not seem to depend on its form. The extent of autonomy depends in fact on the extent of interference from above. Representatives of the government at different levels try to bring pressure directly or indirectly on the management of government enterprises, whatever their form, and as a result the extent of autonomy theoretically attributable to a particular form is not realised in practice. Thus, the question of autonomy depends on the top men who manage the enterprise, the degree of interference they will tolerate, and the firmness with which they will insist upon their freedom of action in the day-to-day affairs of the concern where (theoretically) they have such freedom.

To take one illustration, a departmentally managed concern such as Chittaranjan Locomotives operates with a substantial degree of autonomy. This is why it is one of the most efficient state enterprises from the standpoint of profitability, constant reduction of costs, achievement of production targets, quality of product, labour welfare, and industrial relations. Such is not the case with most government companies and corporations. The revelations of the Chagla Enquiry Commission[2] concerning the operation of the Life Insurance Corporation or the indecision of the Damodar Valley Corporation authorities about shifting their headquarters from Calcutta to Ranchi are examples in point.

An objective assessment of the working of different forms of state enterprises indicates that the extent of autonomy depends not on the form of the enterprise, but largely on the relations existing between the management and the Ministry. It does not mat-

ter even if the concern is departmentally managed, but it does matter (even though the concern has statutory autonomy) if its management and the controlling body do not have a common interest. The crucial point is not whether there are conflicts in the controlling board, but whether these conflicting opinions are fair and impartial judgements of different individuals about the efficient working of the concern or the spearheads of view elsewhere that have an interest in the concern.

Top Management

The problem of autonomy is intimately related to the quality and calibre of the men who run the concern. Often incompetents at the head of an organisation become a prey to external pressure. Managers who know their jobs and who are confident of themselves are able to withstand such pressures. Hence, in the interest of preserving the autonomy of an enterprise as well as of ensuring its efficiency, it is essential to bestow the utmost attention on the selection of the top managerial personnel.

In India the present tendency seems to be to fill the top positions, such as those of general managers or managing directors, with technical men. The technical knowledge of such men is an appreciable asset, but it is doubtful whether this knowledge should be the dominant criterion for their selection. After all, the primary function of a general manager is not to teach his subordinates the techniques of production or to advise on technical problems. He is more than anything else a coordinator of different departments, one who can see the interests of the concern as a whole, while giving due importance to its different parts, and can lead and inspire everyone in the organisation with a view to achieving the best results. Thus, general administrators with good records are better than technical experts. In this respect, the Indian experience has so far not been particularly good.

There is, however, a serious danger in assigning general administrators to top positions for short periods. Such men usually lack an abiding interest in the concern with which they are associated, and by the time they have acquired enough experience to run it efficiently, they are often reassigned. Many generalists in India belong to the permanent all-India services--the Indian Civil Service or the Indian Administrative Service--and have one eye always on New Delhi in hopes of returning to the Secretariat as a secretary or a joint secretary. This situation naturally creates problems of discipline. Hence the necessity for impressing upon a generalist who belongs to an all-India service and who is selected for a top managerial position in a state enterprise that he is embarking on a new career and should stick it out once he has made the choice.

Because experienced top managers are scarce in India, the gov-

ernment has recently established a management pool of officials selected from different departments with a view to securing the services of qualified men for the management of public enterprises. The number of officers in the pool is not sufficiently large to meet the increasing demands for experienced men.

In the circumstances, the only recourse seems to be recruitment of new hands from other age-groups. The training of managers for responsible positions is a field which has yet to be developed in India. There is some awareness of this problem at present, but appropriate measures to remove this deficiency are still to be taken.

Size of Enterprise

There appears at present to be a close relationship between the size of a concern and the efficiency of its management. During the Second Plan there came into existence a number of gigantic concerns, of which the three steel plants and Heavy Electricals are the most prominent examples. While their size was often paraded as a matter of prestige for the nation, they were subjected to the maximum criticism for a variety of failures arising mainly from managerial lapses. One obvious conclusion is that Indian economic development has not yet achieved a level of efficiency which will guarantee the efficient management of concerns of such huge size. It is true that technical economies may be gained from giant size, but in the absence of efficient management the possible gains become inevitable losses. Medium-size concerns are easier to handle, and hence are more efficient than their giant counterparts.

Where the number of concerns in the same field is sufficiently large, it is worthwhile to establish a high-level board, somewhat like the present Railway Board, for purposes of coordination. Such a board can obtain economies as well as maintain supervision at the highest level by experienced personnel. It need not impair the autonomy of the concerns but should help to enhance it. Where such a board exists, all enquiries, whether ministerial, departmental or parliamentary, should be addressed to it so that the board can act as a spokesman for the industry as a whole. The possible fields for experimentation along these lines seem to be iron and steel, heavy electrical, heavy engineering, and fertilisers.

In any scheme of management the problem of delegation is of utmost importance, particularly in the case of large concerns. If the autonomy of the concern as a whole is important to its efficiency, so is autonomy both in decision-making and action-taking within the organisation at different levels. If the managing director wants a free hand in day-to-day administration, his subordinates want the same freedom from interference by him and in their respective spheres of activity. To ensure such autonomy, there should be better definition of responsibilities and delegation of

authority. Delegation on paper does not help matters.

Accountability

The problem of accountability is inseparably bound up with that of autonomy. A state enterprise in a democracy is "publicly owned." There is a purpose behind such ownership: the exercise over it of democratic control, ensuring that the concern will be managed in the public interest. If there is no effort to exercise this control, public ownership serves no purpose.

There can be no doubt about the soundness of this principle, but a difficulty arises when an attempt is made to practice it while preserving the autonomy of the enterprise and the confidence of those who run it. On the one hand, the management is obliged to achieve the goals of the concern; on the other, it must satisfy the Ministry and Parliament. Hence it is said to have one eye on the organisation and the other on the Ministry and Parliament. How to work out a satisfactory arrangement for both is the real problem that accountability presents.

There has been much discussion in recent years, in both official and unofficial circles, concerning this problem. One thing has become quite clear: namely, the need for Parliament to deal with state enterprises in a manner different from that in which its business is usually conducted. It has been suggested that members of Parliament should subject themselves to a self-denying ordinance insofar as questions, interpellations, discussions and resolutions affecting state enterprises are concerned. They should never encroach on the autonomy of these enterprises. Parliament has recently established a new committee that will be responsible for all matters concerning state enterprises.[3] The hope is that this committee will keep informed of the operations of these enterprises and will facilitate responsible parliamentary criticism of various aspects of their administration.

Of late there has been severe criticism also of the manner in which the Auditor-General functions in relation to these enterprises.[4] As the official auditor of the government, the Auditor-General has a constitutional right to examine these concerns. However, the complaint against him is that "he has excellent hindsight; but he wastes his time and ours", and that he looks for procedural defects with a view to discrediting the management. Such a "mistake-oriented" attitude is undesirable. What is needed is a sympathetic approach to the problems confronting these concerns. This will be possible only when the Auditor-General has a special staff well versed in their problems. It is high time that audit should become performance-oriented rather than a post-mortem examination of procedures.

Labour Relations

There is acute unemployment throughout India, but a number of state enterprises face acute shortages of labour. This is perhaps inevitable in the initial stages of rapid industrialisation, for the technical skills needed for handling machines were altogether lacking only a few years ago, and can be made available only through an intensive programme of training. Commendable efforts are now being made in this field by most public enterprises.

Nevertheless, the desirability of offering incentives to workers deserves far more consideration than it is receiving. Work and motion studies are being undertaken by trained industrial engineers in a number of concerns, but a note of caution seems needed here. While work and motion study is useful in plotting the trend of labour efficiency in the initial stages, it is doubtful whether the time has yet come to establish norms. This consideration is particularly important, for it underlies the theory of fixing "a fair day's wages for a fair day's work." Again, too much caution in the field of labour relations, which appears to be the characteristic tendency of the day, is undesirable.

It is interesting that a large percentage of the labour force in a number of major state enterprises comes from afar. This fact has a social and cultural impact on the new townships built around these concerns. It is unfortunate, however, that regionalism has been artificially encouraged in the labour unions by politicians who have built up powerful controlling interests.

Labour participation in management is already an accepted government policy in both the public and private sectors. Yet, the progress made by most state enterprises in this field is not satisfactory. The government plans to bring all state enterprises into line with this policy by the end of the Third Plan period. The joint councils and work councils to be established are bound to produce wholesome results in the fields of labour welfare and grievance redressal. No effort should be spared, however, to immunise the workers from the contamination of party politics, which destroys industrial harmony and peaceful progress.

Costing

Scientific costing as an instrument and an index of efficiency has yet to be developed in most state enterprises. At present it is conducted mainly on a departmental basis. Concerns that now use continuous costing look forward to switching to standard costing after establishing standards. Perhaps it is undesirable to establish standards at such an early stage: since standards are often related to labour norms, it may be preferable to delay establishing them until a concern has acquired stability at the minimum average cost. In this connection the practice adopted by Chittaranjan

Locomotives seems to be a useful one; it involves the preparation of cost sheets for each group of 16 locomotives (now equivalent to nearly one month's production) and the employment of standard costing, the cost of the previous group constituting the standard.

The allocation of indirect expenses to different processes of production has not yet been established. Here, again, it is perhaps too early for the adoption of such a scheme. It must be emphasised, however, that this is a field in which distinct improvement is possible and desirable.

Pricing

A special feature of state enterprises is the fact that management has little to do with the pricing of their products. For example, the government has fixed the prices of the various products of the iron and steel industry. In this task, valuable assistance is rendered by the Tariff Commission. As far as by-products and industrial waste are concerned, wherever there is a market for them, their prices are determined by prevailing "market prices."

The government's dominant role in fixing prices must not cause the concerns to adopt a negligent attitude toward them. A proper, commercially sound price structure in any industry should reflect its integral relationship to a certain profit performance. Such prices, when determined on the basis of costs that are to be standardised, will serve as a working index of the efficiency of a concern. This linking of prices to performance evaluation will assure keen awareness of prices, and particularly of foreign prices--an important consideration in view of India's plans for exporting many new industrial products.

Profits

At present, profit calculation is generally limited to finished products. Process-by-process assessment is yet to be widely introduced. Hence the lack of effort to use a scientific method for allocating indirect costs to the various departments and processes of production. From the point of view of scientific efficiency evaluation, however, it seems desirable to have profits and costs ascertained on a process basis before the product is passed on.

There has been some controversy involving profits from state enterprises. On the one hand it is argued that these concerns, being established and run in the public sector for the public welfare, should operate on a "no-profit, no-loss" basis. This view has been ably contested with two arguments. Firstly, where private and public sectors work side by side, pricing with a view to covering costs and costs alone is wasteful: the goods may be pre-

vented from attaining their social value if such a policy is adopted. Secondly, this policy is bound to impede the process of capital formation, so necessary for faster economic growth: by adopting a "post-office brand of socialism," India will be unable to accelerate her development.

Further, whatever may be its theoretical possibilities, this course is more or less unattainable in practice. For, even if a policy of "breaking even" on a long-term basis were adopted, the changes in price that might be necessary would be highly undesirable. It is gratifying that the Planning Commission has adopted the view that these enterprises should help substantially in capital formation.[5]

So far, state enterprises have not contributed anything substantial by way of dividends. The time has now come for such contributions, and the Third Five Year Plan provides for 4,400 million rupees from this source.

Public Relations

The growing importance of public relations in every state enterprise appeared in a remark by the Prime Minister about these concerns, which he described as "places of pilgrimage" for the people of India. But in order that the people in general may have such a feeling, they should have an opportunity to visit these concerns and see with their own eyes what is happening there. The public relations department of every one of these concerns has an important role to play in facilitating such visits and in creating a public image of them. It is primarily their responsibility to make the "pilgrims" feel the pulse of industrial progress and also realize that the concerns are their common property and intended for their common benefit.

People at large are apt to judge a state enterprise less on scientific grounds than on the impressions they get when they visit it, or from the accounts of others who have done so. To help them understand the problems confronting the concern and also to enlist their goodwill and support requires tact. The role of the public relations man assumes great importance in this context.

Unfortunately one seldom encounters a public relations official who views his role in this light. Most of them who are working with these concerns appear to have neither the qualifications nor the training for the job. As a result, their offices have become centres of bureaucratic inflexibility and inefficiency. Many of them seem to think that they are being greatly obliging if they afford the most trifling assistance to a visiting citizen. One wonders whether this attitude, so characteristic of almost all government offices, will ever improve. If it does improve, it will have a long way to go before even coming close to the attitude that

one finds in the private sector.

Social Effects

Regrettably no conscious effort is being made to assess the impact of these concerns, social as well as economic, on their neighborhoods. The question is of particular interest in the case of concerns located in areas that are relatively backward. Has the advent of large enterprises had any effect on the inhabitants? If so, what effect? These questions require careful investigation.

Notwithstanding the lack of scientific studies on the subject, one general observation may be made. Little significant subsidiary economic development has occurred near the majority of the large state enterprises: very few undertakings have been formed either to supply raw materials where these exist nearby or to process products of the enterprises. To mention but one example, at Bhilai, except for the Associated Cement Companies project for making cement from the slag produced in the steel works, not a single new industry has appeared in the neighborhood of the huge plant. Even a proposal to establish an industrial estate in the vicinity is still wandering around it, unable to find a place in which to settle down.

NOTES

1. Industrial Policy Resolution of the Government of India, 1948.

2. Mundhra Enquiry, The Full Story, 1958.

3. This decision was mainly based on the recommendations of a special committee of the Congress Party in Parliament which made a detailed study of the subject. The Report was published under the title Parliamentary Supervision over State Undertakings, 1959.

4. See, for example, Paul Appleby, A Re-examination of India's Administrative System (1956); Indian Institute of Public Administration, Administrative Problems of State Enterprises in India (1957); and M. V. Pylee, "Accountability of Public Enterprises" in Studies in Political Science (1961).

5. Planning Commission, Government of India, The Third Five Year Plan, p. 275.

M. V. PYLEE, Reader in economic administration at the Delhi School of Economics, recently completed an extended tour of government enterprises in India which provided much of the material for the foregoing article.

COMMUNIST CHINA TRIES LINEAR PROGRAMMING

George N. Ecklund

THE CELEBRATED Leap Forward in Communist China has now become a confused shuffle and most of its bizarre techniques have been quietly dropped, at least for the present. One production technique, however, that was pushed energetically during the Leap Forward (1958-59) has survived the discarded policies of that period and has been carried over into the current program of retrenchment. Linear programming, a technique of mathematical economics applied in the industrial West since World War II to achieve minimum costs of production, was able to fit easily into the spirit of the Leap Forward. The much-vaunted General Line for Socialist Construction which spearheaded the Leap Forward, called for new techniques to achieve "quicker, better, and more economical results"--just what linear programming is designed to accomplish. At the same time, the cost-saving features of linear programming have assured it a place in the current drive for quality and economy in production rather than for quantity and speed.

Although operations research, of which linear programming is a part, has been widely adopted by industrial nations, it has been used sparingly by underdeveloped countries, where first consideration is given to construction of basic industries rather than to application of advanced techniques. China is beginning to develop and use linear programming early in its industrial development, during a period when the country is still predominantly agricultural and the basic heavy industries receive priority. Nevertheless, operations research in China has been given the highest Party and scientific support--by discussion in the official journal of the Chinese Communist Party, Red Flag, by a national conference on linear programming sponsored by the Academy of Sciences, and through articles written by people in authority such as Hua Lo-keng, Director of the Institute of Mathematics, Academy of Sciences. This serious attention now devoted to mathematical techniques of production may be increasingly beneficial to the Chinese as their industry deepens and broadens and as they continue their efforts to compress the timetable for achieving industrial maturity.

Linear programming was introduced into Communist China about 1955, was first applied in 1958-59 in Shantung Province, and was extended to Hopeh, Kwangtung, and other provinces in 1960-61.[1] According to articles in the People's Daily,[2] the application of linear programming began when mathematics teachers in Shantung schools answered the Party's call in 1958 to participate in labor and assist with production. Although they knew nothing about the practical problems of production, these teachers discovered specif

uses for linear programming while assisting truck drivers, farmers, and industrial workers.

Some of the early applications of linear programming were in the transportation and storing of commodities, although success has also been noted in other economic activities. The Chinese reported that in various parts of Shantung Province they used linear programming in the regulation of vehicles and thereby raised transportation efficiency by 10 to 15 per cent. Tsinan municipality alone, it was claimed, saved transportation power in five months equivalent to the freight normally hauled by 904 trucks in a period of one month. In other examples, the Chinese said that improved work patterns through linear programming enabled each operator in the Tsingtao State-Owned Cotton Mill No. 1 to look after an additional four or five looms and permitted a reduction from four to three in the number of men assigned to each machine in a workshop of the Peking No. 1 Cotton Textile Plant.

Other industrial activities that are said to be profiting from the new technique include the distribution of tasks for machine tools, the use of materials in the processing of metals and in the construction industry, and operations in the ceramic and brewing trades. In addition, farming operations in a few areas have been analyzed by experts in linear programming, resulting in improved arrangement of labor power, better distribution of crops, and rational planning of irrigation ditches. More cautious statements in the Chinese press, however, say only that linear programming "can be developed" for a wide variety of uses, implying that successful application to date may have been limited.[3]

A broad educational campaign was used to spread the concept of linear programming as widely as possible in Shantung Province during 1960. The movement apparently centered in 3,000 teachers, students, and scientists from the universities; moved out to more than 100,000 middle school teachers and students; then expanded to include some 300,000 workers, peasants, and technical personnel; and finally encompassed more than eight million people who attended a course of publicity on linear programming. In a burst of enthusiasm, it was said that mathematicians depended on Party committees at different levels "to hand mathematics to the masses." This mass campaign, however, was not without its problems. People's Daily affirmed the correctness of intellectuals going down to the masses to participate in production, but warned mathematicians that in dealing with the rank and file things are frequently not so simple as might be anticipated and that it is difficult to overcome the resistance of people to new methods. One report, of more practical significance than mass education, stated that 1,600 technical persons capable of independently applying linear programming had been trained in Shantung Province.

In July 1960 the Chinese Academy of Sciences convened an all-China conference on operations research, which was presided over by

Tan Tzu-ch'ang, Deputy Director of the Department of Mathematics, Physics, and Chemistry of the Academy of Sciences, and by Hua Lo-keng, Director of the Institute of Mathematics. At this conference, 22 academic papers on operations research were presented and a discussion was held on the efforts to apply linear programming in Shantung Province. The conference concluded that if mathematicians coordinated their efforts closely with production workers, various aspects of operations research could be extended from Shantung to the entire country.[4]

The Chinese Communists define linear programming as "the use of mathematical and economic methods to study the way of employing the least manpower and material and financial resources to fulfill a task to the maximum extent."[5] This definition gives the usual objective of linear programming to plan economic activities in such a way that some optimal result is obtained: The objective may be to minimize the cost of a given operation or, alternatively, to maximize the profit.

Articles in People's Daily and in Kuang-ming Jih-pao[6] indicate that the graphical and simplex methods of linear programming are the most widely used in China at present. This concentration on the most straightforward techniques of operations research lends some credence to the Chinese claims of widespread applications. These two methods can be used successfully by large numbers of people with very little training in mathematics. The simplex method, for example, can be applied to nearly all types of linear programming problems. It is a relatively simple, mechanical method, requiring a knowledge of only addition, subtraction, multiplication, and division; all of these operations are within the scope of the traditional Chinese abacus. The calculations involved are comparable to those necessary for the least-squares method or correlation in statistics, and can be carried out by middle school graduates. Selection and construction of problems in linear programming (as in statistics) require a more sophisticated level of training, however, and these conceptual problems apparently are handled by the several thousand college-level personnel involved in the program. Once the basic framework is set up for the simplex or graphical methods, the routine of carrying them out can be taught to the people responsible for day-to-day operations.

The process of indoctrinating some eight million people in the methods of linear programming, as claimed, must have involved no more than the usual propaganda lectures that all persons in Communist China are required to attend. Only a bare outline of the methods of programming would be meaningful for large groups of Chinese workers. The level of sophistication adapted to group meetings is suggested in the story that Red Flag used to answer the question: What is the science of operations and programming?

> During the time of the Warring States, the King of Ch'i State and Lord T'ien Chi raced their horses at Lintzu. Both of them owned

horses of the higher, intermediate, and lower grades. Three races were held, and the stake money for each race was one thousand gold pieces. Grade for grade, the horses of the King of Ch'i were better than those of Lord T'ien Chi. Because his horses were inferior, T'ien Chi often lost the race and his money. At that time, a retainer of T'ien Chi named Sun Pin offered him a scheme. Acting in accordance with that scheme, T'ien Chi raced his lower-grade, higher-grade, and intermediate-grade horses respectively against the higher-grade, intermediate-grade and lower-grade horses of the King of Ch'i. As a result, he won two races and lost one, thus netting one thousand gold pieces. It can be said that this was in essence a simple form of the science of operations and programming.

With the limited information available at present, it is not possible to assess the scope and usefulness of the current campaign to popularize linear programming in China. It is likely that the present effort in a few provinces has at least served to delineate the fields in which linear programming might be advantageously applied and to uncover some of the problems, such as training, that must be solved before linear programming can be widely adopted. These problems of application may occupy the attention of the limited core of trained personnel for some time, no matter how rapidly the Party leaders desire to push ahead, and it may be some years before the fledgling efforts now being made will contribute substantially to the goal of operating the economy like a coordinated chess game. Red Flag points out that current applications must concentrate on simple programming, but also insists that if operations research is to move forward, a more advanced theory must be developed and applied, including nonlinear and dynamic programming. At the very least, it appears that the Chinese are making a serious start toward developing a technique of production that is now indispensable to a modern industrial nation.

NOTES

1. Hung-ch'i, Peking, November 1, 1960. (Translated in Selections from China Mainland Magazines, No. 236, Hong Kong, November 21, 1960.)
New China News Agency, Peking, December 17, 1960, and March 13, 1961.

2. Jen-min Jih-pao, Peking, July 29, 1960. (Translated in Survey of China Mainland Press, No. 2324, Hong Kong, August 24, 1960.)

3. Hung-ch'i, Peking, November 1, 1960.
Jen-min Jih-pao, Peking, February 3 and March 12, 1961. (Translated in Current Background, No. 649, Hong Kong, April 5, 1961.)
Kuang-ming Jih-pao, Peking, October 11 and November 1, 1960, and March 12, 1961. (Translated in Current Background No. 649.)

4. Kuang-ming Jih-pao, Peking, August 5, 1960. (Translated by Union Research Service, Kowloon, Hong Kong, October 18, 1960.)

5. Jen-min Jih-pao, Peking, July 29, 1960.

6. Kuang-ming Jih-pao, Peking, October 27, 1960.
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RECENT LAND REFORM PROGRAMS IN NEPAL

Mahesh Chandra Regmi

LAND REFORM has been a pressing issue in Nepal since 1951, when a family autocracy was replaced by a more liberal regime seeking political reform under a constitutional monarchy. Although action taken in certain fields of land reform has had important repercussions on the traditional land system in Nepal since that date, it must be conceded that political instability and administrative difficulties have made effective and comprehensive land reform an objective still to be achieved.

The kingdom of Nepal is a land of striking climatic and topographic diversity. It encompasses both the highest mountain in the world and the Terai, a 20-mile strip of the Indo-Gangetic Plain, which is only a few hundred feet above sea level. Such physical diversity has hindered the gradual evolution of a uniform pattern of land tenure in Nepal.

Reform measures undertaken so far concern mainly three aspects of the agricultural system: (1) insecurity of tenancy rights, (2) excessive rents, and (3) privileged forms of landownership and use. Attempts have been made to deal with these problems in the past ten years, but with little success. There has been no effort to interrelate these programs or to fit them into a more comprehensive land-reform program.

Tenancy Rights and Reduced Rents

The authors of Nepal's First Five Year Plan characterized the kingdom's land problem in these terms: "The present generation of Nepal, as in many other countries, has inherited an agrarian system which fails, in important respects, to protect the rights and interests of those who work on the land. . . . Tenancy poses a serious problem in many sections where it is widespread, where rents are unregulated by law, and where tenants have no legal protection against arbitrary eviction." According to estimates, 80 per cent of the total cultivated land in Nepal is worked by tenants. In a country where nearly 95 per cent of the people depend upon land for their livelihood, insecurity of tenancy rights and lack of controls on rents pose an ubiquitous problem which lies at the root of all land-reform measures.

Insecurity of tenancy rights is an inevitable product of conditions in which rents are not regulated by law and are determined more by economic factors, such as density of population and the

consequent pressure on available land, than by the intrinsic productivity of the soil. For example, in certain districts of the Eastern Terai, where the density of population is among the highest in the kingdom, rents absorb as much as two-thirds of the gross product. In addition, a number of miscellaneous impositions payable to the landlord frequently increase the tenant's burden. When the interest on loans obtained from the landlord to finance the costs of cultivation, which may amount to as much as 75 per cent per annum, is added to the rent collected, the total share appropriated by the landlord leaves the tenant with little on which to live or with which to finance cultivation. This type of landlord control inhibits the supply of capital to agriculture and tends to draw income from the land for purposes of non-agricultural investment. Tenancy in the existing conditions of Nepal makes the tenant wholly dependent on the landlord and is virtually synonymous with serfdom.

The Land Reforms Act of 1957 sought to remedy the twin evils of insecure tenancy rights and unregulated rents. It fixed either one-half of the gross produce or the usual rent, whichever is lower, as the maximum amount to be paid by the tenant, and prohibited extra impositions. Tenancy rights were secured to any tenant who cultivated a holding for one year; eviction of a tenant was prohibited as long as he regularly paid the stipulated rent. Only by process of law could eviction be effected. The Act further provided that tenancy rights should be inheritable, although not transferable without the consent of the owner. However, an amendment enacted in 1959 made tenancy rights salable without such consent.

Another provision of the Land Reforms Act called for the compilation of a record of tenants protected under the law so that tenants would have a documentary title to the land they cultivate. In many cases, the reluctance of landlords to provide their tenants with titles has resulted in the withholding of receipts for the payment of rents. Similar objectives had been stated in the Land and Cultivators Records Compilation Act of 1956, which provided for the determination of cultivators' rights by village committees and for the compilation of current lists of these rights. But little progress has been made in this direction.

Inertia has been the main obstacle to enforcement of the Land Reform Act, which in its present state is ineffective in securing tenancy rights or in restricting rents. In the prevailing situation, in which virtually no effectual administrative system is operative at the village level, adequate enforcement of reform measures is almost impossible.

Furthermore, it is misleading to describe the measures concerning restrictions on rents as reformative ones. The Land Reforms Act gives formal recognition to the custom, prevalent in large areas of Nepal, of an equal division of the gross product. However, the Act does not specify whether it is the main crop or

all crops grown throughout the year that is to be shared. In addition, it is ineffective, even if enforced properly, in alleviating the situation of the cultivator. The only restrictions placed upon the landlord are those requiring him to wait until the end of the harvest for the collection of rent and to issue receipts to the tenant for such payment. The full responsibility for financing all costs of cultivation and for improvements and innovations rests with the tenant. Abolition of intermediaries and of absentee landlordism has been a cardinal desideratum of the land-reform programs of many other countries, but the Nepal Land Reforms Act of 1957 not only ignores these basic problems but tends to reinforce existing practices.

Insecurity of tenancy rights and unregulated rents have led also to landlessness on the one hand and to the concentration of landownership in progressively fewer hands on the other. Aided by institutional factors, such as the zamindari system, under which the zamindar, or non-official revenue-collecting agency, is in a position to juggle the land records and to force out the small holder, these abuses appear to have gained considerable momentum, especially in the Terai districts. The existing rural credit system, with the village moneylender as its pivot, has aggravated the problem of concentration of landownership.

A wider diffusion of landownership has therefore been regarded as an objective of land-reform policy. A measure to this effect was finally undertaken in 1959 with the enactment of the Land Taxation Act, which imposed taxes on landholdings paying more than 250 rupees in land revenue or exceeding 25 bighas (approximately 40 acres), whichever is the higher. The objective of this tax is to discourage the retention of large holdings and thus to encourage more diffused landownership, particularly in the Terai districts. However, the purposes of the Act have been thwarted by land transfers, often within the same family, in order to keep holdings within the taxable limit. Since records of land rights are poorly kept and out of date in many parts of Nepal, the administrative problems involved in the implementation of this measure have been considerable.

Even though the general trend appears to be toward a progressive concentration of landownership in fewer hands, there is evidence that the unit of cultivation, as distinct from the unit of ownership, has been diminishing steadily. Ownership has tended to be vested in absentee landlords, whereas the holdings in the hands of actual cultivators are becoming uneconomical as a result of excessive subdivision and fragmentation.

One method of combatting landlessness, as well as uneconomical holdings, involves the resettlement of landless peasants on newly reclaimed land. Planned action in this direction has been limited thus far to the American-aided Rapti Valley Multi-purpose Development Project in the Inner Terai. Under this program, 3,026 families

have already been settled on approximately 23,000 acres of land. Further resettlement has been halted, however, because no more reclaimable land is available under the project. An interesting feature of this program is the requirement that holdings may not be rented out or fragmented. One might hope that the project could serve as a model for land-reform programs in other areas of Nepal, but, according to an Israeli agricultural team, "These beginnings were on a limited scale, retained the usual farm pattern, and envisaged no innovation and no improvements in the farmers' standard of living."

Abolition of the Privileged Landownership System

The kingdom of Nepal assumed its present size and form through the unification of a number of petty principalities in the late eighteenth and early nineteenth centuries. Despite political unity, however, economic integration has never been achieved. Various regions of the kingdom continue to function under different types of administrative systems, and the results of Hindu, Moghul and British influences on the land-tenure system may be seen co-existing with purely Nepalese traditions. In many areas the last revenue settlement was made nearly a century ago. The form and basis of the revenue assessment were determined in accordance with different methods at different times in different areas, with the result that the land-revenue structure has not only assumed a motley character but has also become obsolete and inconsistent with existing levels of agricultural prices and land values.

Uniformity in the system of assessments, with due consideration for the varying conditions of different geographical regions, should therefore not only improve the working of the land-administration machinery but also enable the land-revenue structure to yield higher income to the state. To this end, a cadastral survey program was initiated in 1956 under the First Five Year Plan, its goal being completion of the survey of the entire kingdom within eight years. However, because of the lack of trained personnel as well as other administrative problems, only six of the 60 revenue divisions have been surveyed so far.

By legal and historical tradition, land belongs primarily to the state. However, the practice of granting land to individuals or to religious and philanthropic institutions is of long standing and has led to a serious diminution in state revenues and to the emergence of the rent-free birta and guthi landholding systems. Birta lands were originally given to individuals, such as chieftains, in return for services; guthi lands are endowments that have been made to temples.

Since 1951 there has been strong support for abolition of the birta system as the symbol of a feudal and backward economy, but not until 1959 was positive action taken by the government and the

"Birta Abolition Act" decreed. Under the provisions of the Act, a distinction is drawn between birta holdings from which the holder is entitled only to collect and retain land revenue, and birta holdings involving an outright grant of land entitling the owner to collect rent from the person cultivating his land. The Act calls for the nationalization of the first type of birta, and for the compensation of the holder in cash or bonds up to a maximum of 12,000 rupees. The latter class of birta holdings, however, have not been nationalized, and the owners are merely required to pay taxes on their holdings at rates prevailing on adjoining state-owned lands.

In the two years since the Act came into effect, its implementation has been impeded by political and administrative difficulties. Agitation by powerful birta interests has also had a deterrent effect. Moreover, the lack of records detailing the number and extent of birta holdings has complicated the administration of the law, while repeated efforts on the part of the government to persuade birta owners to register their holdings have been only partially successful.

Under the guthi system, land grants were made to charitable, religious or philanthropic institutions. In view of the religious factors involved, the government has been reluctant to encroach upon these arrangements.

Another form of land alienation that has seriously reduced revenues accruing to the government has been the Rajya system, a relic from the period when the Shah dynasty united Nepal politically. Until recently 17 vassal states scattered over the western half of the country retained certain treaty rights which limited or barred the collection by the central government of revenue within their boundaries. Only with the enactment of the Rajya Abolition Act in 1960 was this system finally abolished, over the strong protests of some of the local Rajyas in these areas.

RECENT LAND-REFORM measures have been relatively ineffective in improving tenant-landlord relations. What is needed is bold action aimed at structural changes in the landowning hierarchy, such as the abolition of intermediary classes and the elimination of absentee landlordism. In the absence of comprehensive steps in this direction, palliative measures of the type taken so far tend to increase agrarian tension and discontent by encouraging evictions in an attempt to withhold tenancy rights from peasants. This situation is particularly serious in the absence of effective administration at the village level. Even though reforms in land administration constitute a necessary prelude to effective land reform, it is difficult to understand why inadequate attention is being paid to such basic and urgent measures as the cadastral survey program.

In countries with a stagnant land economy such as that of

Nepal, the real obstacles to effective economic progress often comprise imponderable factors. A noted American land expert has remarked:

> My own experience in Asia leads me to the conclusion that the real agrarian reform difficulties are political or ideological, if you will, rather than technical. More concretely, in many a country land reform is overdue not because of lack of knowledge as to how to go about it, but because the powers that be have no interest in programs of that kind and are wedded to the status quo. . . . The tendency there is to wait until it is too late, and it is against this state of affairs that we must speak out.

Recent months have witnessed a heightened interest in land reform as a factor of economic development in Nepal. According to a recent royal proclamation, "So long as the land system is not reformed in an agricultural country like ours and the real hardships and difficulties of the peasants are not removed, the basis cannot be laid for any type of economic reform." Wider diffusion of landownership in order to eliminate exploitation and remove existing impediments to economic development has been declared a primary objective of land-reform policy. A Royal Land Reform Commission has been formed to recommend measures for ameliorating the existing landholding system and for achieving uniformity in the land-revenue structure. It is not too much to hope, therefore, that awareness of the need for comprehensive reforms in this vital area of the national economy will soon manifest itself in concrete and practicable measures.

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SOCIAL MOBILITY AND CASTE IN INDIA: REPORT ON A SEMINAR

William Rowe

ONLY IN VERY RECENT YEARS have social scientists begun to examine the phenomena of social mobility within the Indian caste system. In the classical comparative sociological view of social stratification systems Indian society was usually presented as "frozen," or closed, at the polar extreme from open, Western class systems. Recently a group of Indianists met to present papers and hold discussions concerning current research on the topic "Social Mobility in the Caste System in India."*

Both the papers and the discussion reflected a variety of theoretical viewpoints and a wide range of data. Papers varied from Burton Stein's (history, University of Minnesota) study of mobility among Sudras in the Srivaisnava sect of medieval South India to Y. B. Damle's (sociology, Massachusetts Institute of Technology) application of reference group theory to contemporary urban mobility in caste. Edward Harper (anthropology, Bryn Mawr College) analyzed the social consequences of an unsuccessful low-caste movement in the Malnad, South India, drawing on historical materials as well as on his recent field work. William Rowe presented a case study of a contemporary caste mobility movement in North India, that of a Sudra group which claims status as Chauhan Rajputs. The session benefited from the presentations of the two invited discussants, Bernard Barber (sociology, Barnard College) and McKim Marriott (anthropology, University of Chicago). During the post-session colloquium approximately 30 scholars took part in the discussion, which was chaired by James Silverberg (anthropology, University of Wisconsin-Milwaukee). Moving from a consideration of the papers, the group discussed caste and mobility in more general terms.

Although the papers were for the most part only partial statements of the authors' research, and both the subjects and methods were diverse, some common themes and questions nevertheless emerged.

Social mobility, as a socio-psychological process, has persisted within the caste system without challenging the stratifica-

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*The symposium, followed by a colloquium, was held at the annual meeting of the Association for Asian Studies earlier this year. The papers and discussion are to be published under the editorship of James Silverberg.

tion system itself. It is possible for the rank of either an individual or a group to change in this way. Damle uses Robert K. Merton's concept of anticipatory socialization in discussing changes of rank toward the Brahmanic, Kingly, Vaishya, and Western models. For example, he writes of a "Mr. X, a non-Brahmin from Poona, highly educated, professor in a college, who observes all the tabus proper for a Brahmin, and who has been able to enter into marital relationships with Brahmins." While Damle's paper deals largely with individual social mobility, the others deal with cases of group mobility.

Stein discusses the change in status of Sudras within the Srivaisnava sect from the eleventh to the fourteenth centuries in South India when, at least in some temples, Sudras were admitted to full sect participation in theoretical equality with twice-born members of the sect. Later during the fourteenth century the sect doctrine conformed to the tradition of proper caste function and status, causing downward mobility for these same groups of Sudras.

Edward Harper traces the history of a group of untouchables in the Brahmin-dominated Malnad region of Mysore State in South India through three periods: 1) slavery, which existed until 1878, 2) indentureship thereafter, and 3) the current period of breakdown of local indentureship. Although the dominant caste of the region has not accorded a higher status to the untouchables, changes within the lower-caste organization and style of life have occurred. Currently untouchable interest seems to have shifted from the stratification system of the local village to a concern with the pan-Indian Harijan (untouchable) movement. Harper concludes: "This then would indicate that the reference group against which untouchables measure social mobility is shifting from the rural village scene to the greater Indian society, and also that social mobility is a much more complex phenomenon than a change in the rank of a caste in a local hierarchy."

Somewhat analogous is the case presented by William Rowe. During the past 60 years, a group of Saltmakers (Noniyas, a Sudra caste) in North India have attempted to raise their status through an organized socio-political movement which claims that, in fact, they are descendants of an honored Rajput clan of Western India, the Chauhans. The myth upon which they base their claim states that they have been living incognito in eastern Uttar Pradesh and Bihar since the sixteenth century. With the exception of a small economic elite within the caste (themselves organizers of the Chauhan movement), the group has largely been unable to validate its claim, and on the village level the traditionally dominant groups have not accorded the Noniyas a high-caste Chauhan status. Among the younger generation there is now a growing attachment to Western egalitarian ideas--a rejection in part of the caste mobility movement itself. Both Harper and Rowe find evidence of changes occurring within the low castes, nonacceptance of changed status by locally dominant groups, and a turning to the wider society for sup-

port in a new attachment to "modern" values.

The colloquium also considered the problem of levels of analysis--local, regional, and national--and stressed the factor of alternate models. When a successful mobility movement has occurred within the caste system, little evidence remains attesting to the movement. We tend to know only of the unsuccessful movements. Bernard Cohn reflected on the picture scholars often have of "traditional" India. It is frequently a view of an artificially simplified system, frozen by outside authorities such as the British or Moghuls. At present, because of an increase in the dissemination through mass media of a variety of ideas, we find an increasing awareness of the conflict of values.

Although the colloquium dealt specifically with social mobility in caste, the emphasis on the wider, modern dimensions of an urbanizing and developing national Indian culture makes it imperative to consider class mobility as well in future research.

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